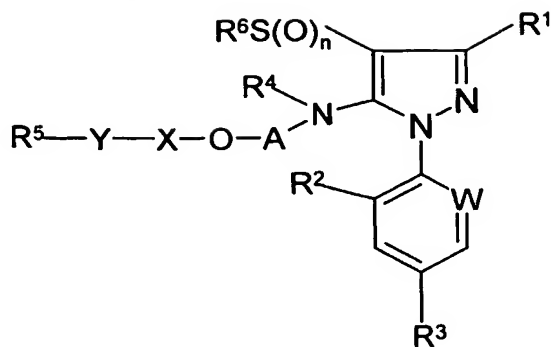


CLAIMS

1. A compound of formula (I):



(I)

wherein:

R^1 is CN, $CSNH_2$ or $C(=N-Z)-S(O)_r-Q$;

Z is H, (C_1-C_6) -alkyl, (C_1-C_6) -haloalkyl, (C_3-C_6) -alkenyl, (C_3-C_6) -alkynyl, $-(CH_2)_qR^7$,

10 COR^8 , $CO_2-(C_1-C_6)$ -alkyl or $S(O)_pR^8$;

Q is (C_1-C_6) -alkyl or CH_2R^7 ;

W is C-halogen, C- CH_3 or N;

R^2 is hydrogen, halogen or CH_3 ;

R^3 is (C_1-C_3) -haloalkyl, (C_1-C_3) -haloalkoxy or SF_5 ;

15 R^4 is hydrogen, (C_2-C_6) -alkenyl, (C_2-C_6) -haloalkenyl, (C_2-C_6) -alkynyl, (C_2-C_6) -haloalkynyl, (C_3-C_7) -cycloalkyl, (C_3-C_7) -cycloalkyl- (C_1-C_6) -alkyl, $CO_2-(C_1-C_6)$ -alkyl, $CO_2-(C_3-C_6)$ -alkenyl, $CO_2-(C_3-C_6)$ -alkynyl, $CO_2-(CH_2)_mR^7$ or SO_2R^8 ; or (C_1-C_6) -alkyl unsubstituted or substituted by one or more radicals selected from the group consisting of halogen, (C_1-C_6) -alkoxy, (C_1-C_6) -haloalkoxy, (C_3-C_6) -alkenyloxy, (C_3-C_6) -haloalkenyloxy, (C_3-C_6) -alkynyloxy, (C_3-C_6) -haloalkynyloxy, (C_3-C_7) -cycloalkyl, $S(O)_pR^8$, CN, NO_2 , OH, COR^9 , NR^9R^{10} , $S(O)_pR^7$, OR^7 and CO_2R^9 ;

A is (C_1-C_6) -alkylene or (C_1-C_6) -haloalkylene;

X is $C(=O)$, $C(=S)$ or SO_2 ;

Y is O, NR^{11} or a covalent bond;

25 R^5 is (C_3-C_6) -alkenyl, (C_3-C_6) -haloalkenyl, (C_3-C_6) -alkynyl, (C_3-C_6) -haloalkynyl, (C_3-C_7) -cycloalkyl, (C_3-C_7) -cycloalkyl- (C_1-C_6) -alkyl, $-(CH_2)_qR^7$ or $-(CH_2)_qR^{12}$; or is $(C_1-$

C₆)-alkyl unsubstituted or substituted by one or more radicals selected from the group consisting of halogen, (C₁-C₆)-alkoxy, (C₁-C₆)-haloalkoxy, (C₃-C₆)-alkenyloxy, (C₃-C₆)-haloalkenyloxy, (C₃-C₆)-alkynyloxy, (C₃-C₆)-haloalkynyloxy, (C₃-C₇)-cycloalkyl, S(O)_pR⁸, CN, NO₂, OH, COR⁹, NR⁹R¹⁰, S(O)_pR⁷, OR⁷ and CO₂R⁹;

5 R⁶ is (C₁-C₆)-alkyl, (C₁-C₆)-haloalkyl, (C₂-C₆)-alkenyl, (C₂-C₆)-haloalkenyl, (C₂-C₆)-alkynyl or (C₂-C₆)-haloalkynyl;

R⁷ is phenyl unsubstituted or substituted by one or more radicals selected from the group consisting of halogen, (C₁-C₆)-alkyl, (C₁-C₆)-haloalkyl, (C₁-C₆)-alkoxy, (C₁-C₆)-haloalkoxy, CN, NO₂, S(O)_pR⁸, COR¹⁰, COR¹³, CONR⁹R¹⁰, SO₂NR⁹R¹⁰, NR⁹R¹⁰ and OH;

R⁸ is (C₁-C₆)-alkyl or (C₁-C₆)-haloalkyl;

R⁹ and R¹⁰ are each independently H, (C₁-C₆)-alkyl, (C₁-C₆)-haloalkyl, (C₃-C₆)-alkenyl, (C₃-C₆)-haloalkenyl, (C₃-C₆)-alkynyl, (C₃-C₆)-cycloalkyl or -(C₁-C₆)-alkyl-(C₃-C₆)-cycloalkyl; or

15 R⁹ and R¹⁰ together with the attached N atom form a five- or six-membered saturated ring which optionally contains an additional hetero atom in the ring which is selected from O, S and N, the ring being unsubstituted or substituted by one or more radicals selected from the group consisting of halogen, (C₁-C₆)-alkyl and (C₁-C₆)-haloalkyl;

20 R¹¹ is H, (C₁-C₆)-alkyl, (C₁-C₆)-haloalkyl, (C₃-C₆)-alkenyl or (C₃-C₆)-alkynyl;

R¹² is heterocyclyl unsubstituted or substituted by one or more radicals selected from the group consisting of halogen, (C₁-C₄)-alkyl, (C₁-C₄)-haloalkyl, (C₁-C₄)-alkoxy, (C₁-C₄)-haloalkoxy, NO₂, CN, CO₂(C₁-C₆)-alkyl, S(O)_pR⁸, OH and oxo;

25 R¹³ is phenyl unsubstituted or substituted by one or more radicals selected from the group consisting of halogen, (C₁-C₆)-alkyl, (C₁-C₆)-haloalkyl, (C₁-C₆)-alkoxy, (C₁-C₆)-haloalkoxy, CN, NO₂, S(O)_pR⁸ and NR⁹R¹⁰;

n, p and r are each independently zero, one or two;

m and q are each independently zero or one; and

30 each heterocyclyl in the above-mentioned radicals is independently a heterocyclic radical having 3 to 7 ring atoms and 1, 2 or 3 hetero atoms in the ring selected from the group consisting of N, O and S;

or a pesticidally acceptable salt thereof.

2. A compound or a salt thereof as claimed in claim 1 wherein R¹ is CN or CSNH₂.

5 3. A compound or a salt thereof as claimed in claim 1 or 2 wherein R⁶ is CF₃.

4. A compound or a salt thereof as claimed in claim 1, 2 or 3 wherein R¹ is CN, CSNH₂ or C(=N-Z)-S-Q;

Z is H, (C₁-C₃)-alkyl, -(CH₂)_qR⁷, COR⁸, CO₂-(C₁-C₃)-alkyl or S(O)_pR⁸;

10 Q is (C₁-C₃)-alkyl;

W is C-Cl;

R² is Cl;

R³ is CF₃;

R⁴ is hydrogen, (C₂-C₄)-alkenyl, (C₂-C₄)-alkynyl, (C₃-C₇)-cycloalkyl, CO₂-(C₁-C₄)-alkyl, CO₂-(C₃-C₄)-alkenyl, CO₂-(C₃-C₄)-alkynyl, CO₂-(CH₂)_mR⁷ or SO₂R⁸; or
15 (C₁-C₃)-alkyl unsubstituted or substituted by one or more radicals selected from the group consisting of halogen, (C₁-C₃)-alkoxy, S(O)_pR⁸ and CO₂-(C₁-C₃)-alkyl);

A is -CH₂CH₂- or -CH₂CH₂CH₂-;

X is C(=O) or SO₂;

20 Y is O, NH or a covalent bond;

R⁵ is (C₃-C₄)-alkenyl, (C₃-C₄)-alkynyl, -(CH₂)_qR⁷, (C₁-C₃)-alkyl or (C₁-C₃)-haloalkyl;

R⁶ is CF₃;

each R⁷ is independently phenyl unsubstituted or substituted by one or more radicals selected from the group consisting of halogen, (C₁-C₃)-alkyl, (C₁-C₃)-

25 haloalkyl, (C₁-C₃)-alkoxy, (C₁-C₃)-haloalkoxy, CN, NO₂ and S(O)_pR⁸; and

each R⁸ is independently (C₁-C₃)-alkyl or (C₁-C₃)-haloalkyl.

5. A compound or a salt thereof as claimed in any one of claims 1 to 4 wherein R¹ is CN or CSNH₂;

30 W is C-Cl;

R² is Cl;

R³ is CF₃;

R^4 is (C_1-C_3) -alkyl;

A is $-CH_2CH_2-$ or $-CH_2CH_2CH_2-$;

X is $C(=O)$;

Y is O, NH or a covalent bond;

5 R^5 is (C_3-C_4) -alkenyl, (C_3-C_4) -alkynyl, $-(CH_2)_qR^7$, (C_1-C_3) -alkyl or (C_1-C_3) -haloalkyl;

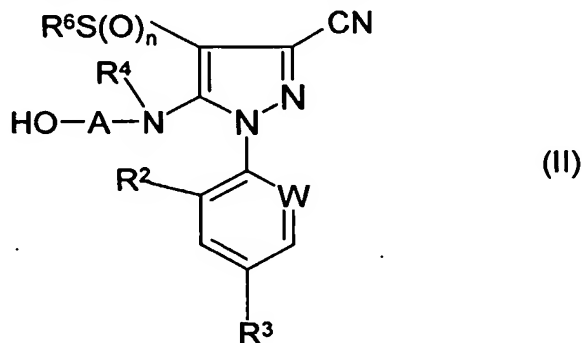
R^6 is CF_3 ;

R^7 is phenyl unsubstituted or substituted by one or more radicals selected from the group consisting of halogen, (C_1-C_3) -alkyl, (C_1-C_3) -haloalkyl, (C_1-C_3) -alkoxy, (C_1-C_3) -haloalkoxy, CN, NO_2 and $S(O)_pR^8$; and

10 R^8 is (C_1-C_3) -alkyl or (C_1-C_3) -haloalkyl.

6. A process for the preparation of a compound of formula (I) or a salt thereof as defined in any one of claims 1 to 5, which process comprises:

a) where R^2 , R^3 , R^4 , R^5 , R^6 , W, A and n are as defined in claim 1, R^1 is CN, and
15 Y and X are as defined in claim 1 with the exclusion of compounds in which $-Y-X-$ is $-NH-CO-$ or $-NH-CS-$, acylating or sulfonylating a compound of formula (II):



wherein R^2 , R^3 , R^4 , R^6 , W, A and n are as defined in formula (I), with a compound of formula (III):



20

wherein Y and X are as defined in formula (I) with the exclusion of compounds in which $-Y-X-$ is $-NH-CO-$ or $-NH-CS-$, and L is a leaving group; or

b) where R^1 is CN, and R^2 , R^3 , R^4 , R^5 , R^6 , W, A and n are as defined in claim 1, reacting a compound of formula (II) wherein R^1 , R^2 , R^3 , R^6 , W, A and n are as

25 defined in claim 1 and $-Y-X-$ is $-NH-CO-$ or $-NH-CS-$, with an isocyanate or isothiocyanate compound of formula (IV) or (V):



wherein R^5 is as defined in formula(I); or

- 5 c) where R^1 is CN, n is 1 or 2, and R^2 , R^3 , R^4 , R^5 , R^6 , W, A, X and Y are as defined in claim 1, oxidising a corresponding compound in which n is 0 or 1; or
- d) where R^1 is CSNH₂, and R^2 , R^3 , R^4 , R^5 , R^6 , W, A, X, Y and n are as defined in claim 1, reacting the corresponding compound of formula (I) wherein R^1 is CN, with an alkali or alkaline earth metal hydrosulfide, or with the reagent Ph₂PS₂; or
- 10 (e) where R^1 is CSNH₂, and R^2 , R^3 , R^4 , R^5 , R^6 , W, A, X, Y and n are as defined in claim 1, reacting the corresponding compound of formula (I) wherein R^1 is CN, with a bis(trialkylsilyl)sulfide, in the presence of a base; or
- (f) where R^1 is C(=N-H)-S-Q, and Q, R^2 , R^3 , R^4 , R^5 , R^6 , W, A, X, Y and n are as defined in claim 1, reacting the corresponding compound of formula (I) wherein R^1
- 15 is CSNH₂ with an alkylating agent of formula (VI) or (VII):



wherein Q is as defined in formula (I) and L^1 is a leaving group; or

- (g) where R^1 is C(=N-Z)-S-Q, Z is as defined in claim 1 with the exclusion of H, and the other values are as defined in formula (I), alkylating, acylating or
- 20 sulfonylating the corresponding compound of formula (I) wherein Z is H, with a compound of formula (VIII):



wherein Z is as defined in formula (I) with the exclusion of H, and L^2 is a leaving group; and

- 25 (h) if desired, converting a resulting compound of formula (I) into a pesticidally acceptable salt thereof.

7. A pesticidal composition comprising a compound of formula (I) or a pesticidally acceptable salt thereof as defined in any one of claims 1 to 5, in
- 30 association with a pesticidally acceptable diluent or carrier and/or surface active agent.

8. The use of a compound of formula (I) or a salt thereof according to any one of claims 1 to 5 or of a composition according to claim 7, for the preparation of a veterinary medicament.

5 9. The use of a compound of formula (I) or a salt thereof according to any one of claims 1 to 5 or of a composition according to claim 7, for the control of pests.

10. A method for controlling pests at a locus which comprises applying thereto an effective amount of a compound of formula (I) or a salt thereof as claimed in any
10 one of claims 1 to 5 or of a composition according to claim 7.